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ABSTRACT

About 464 plants and animals found in the United States and its territories are listed by the U.S. Fish and Wildlife Service as threatened or endangered. Another 3900 are candidates for protection. The activities in this guide are designed to help teachers and students understand the issue of endangered species. It includes ideas for several activities that can be done at school, home, and in the community. The guide also contains information on 12 endangered species that are pictured in an accompanying poster. These plants and animals are: (1) the American bald eagle; (2) Englemann's purple-spined hedgehog cactus; (3) the Florida manatee; (4) the Florida panther; (5) the gray wolf; (6) the grizzly bear; (7) the Hawaiian monk seal; (8) the leatherback sea turtle; (9) the piping plover; (10) the small whorled pogonia; (11) the whooping crane; and (12) the wood stork. Also included is a bibliography and a list of conservation organizations. (TW)

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1. Vocabulary

The following terms are related to endangered species. Defining, writing sentences, making word searches or crossword puzzles are some activities that may be assigned.

biology	niche
botany	threatened species
zoology	extinct
ecology	diversity
ecosystem	habitat
food chain	pesticide
predator	herbicide
prey	conservation

2. Map Study

Using a U.S. or world map, locate the major habitat for each of the endangered species pictured on the poster. Develop a symbol for each species and a key for your map. Place the symbols on the map where the species are found. Use another key to show the causes of endangerment for each of the twelve species pictured on the poster. **H** = Habitat destruction; **P** = Pollution; and so on.

3. What's Your Opinion?

Rank these threats to the plants and animals on the poster in the order from greatest threat to least threat.

– habitat loss
– lack of a food source
– human activities
– predators
– pollution

After your study of endangerment, do the ranking once again. Have your opinions changed? Do you want to add anything to the list?

4. Charting Endangerment

Make a chart with the headings indicated below for the animals on the poster. Analyze the information you have collected and form hypotheses about what might happen if the _____ (name of species) became extinct? Would there be a population explosion of its prey? Why or why not? How might humans be affected?

Name of Endangered Species	Where It Lives	Food	Place in Food Chain	Why Endangered

5. Attitudes and Attitudes

AESOP'S FABLES contain many brief stories about bears, cranes, eagles, storks and wolves—five of the endangered species featured on the poster. Read and review a tale for descriptive words or passages that convey feelings about one of these animals. Discuss the effect these impressions may have on our attitudes toward these animals. (The wolf, in particular, has been treated by Aesop and the brothers Grimm as an archenemy of people.) Write your own fable about a species (wolf, bear, whale, cougar, etc.) that portrays the creature as not harmful.

6. An Awareness Campaign

Let others in your school and community know about endangered species. Use these suggestions:

► Hold a poster contest using the twelve endangered species as the contest theme. Decide on a size for the entries, a deadline, and select a panel of judges. Display all the entries in the hallway or classroom.

► Ask your student government to co-sponsor an environmental issues speaker program with the PTA. Have the program at a time when parents can see the posters.

7. Getting Involved

Everybody can do something to protect endangered species. Here are some ways you and your family can get involved.

► Learn as much as you can about plants and animals. Read books and articles, watch television nature shows, go to the zoo.

► Don't buy animals that have been taken from the wild. Make sure pet stores have documents that show the animal has been raised in captivity and therefore can survive at home.

► Don't buy articles made of wild animal hides or parts. If you have a doubt, ask the sales person for information.

► Visit zoos that are breeding endangered species. Support them with money or volunteer your time.

► Write letters to public officials on the local, state and national levels and let them know how you feel about the protection of endangered or threatened species.

► See if your family supports or is a member of any conservation group. Discuss the possibility of your family joining such a group as a way of becoming better informed about environmental protection.

FOR FURTHER READING

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ENDANGERED SPECIES

American Bald Eagle

Scientific name: ***Haliaeetus leucocephalus***
Historic Range: **Canada, United States (except Hawaii)**

The bald eagle is a bird of prey, one of eight species of sea eagles in the world and the only one found in North America. The bird's population in the U.S. and Canada is estimated to be between 35,000 and 50,000. Most of these eagles are found in Alaska and Canada. The bald eagle is endangered largely because of environmental pollutants—pesticides and industrial chemicals that flow or leach into waterways and are eaten by small fish. These fish are eaten by larger fish and waterfowl, which—in turn—are eaten by eagles. Predators like the bald eagle, that are higher on the food chain, accumulate large amounts of toxins that damage their health and their ability to reproduce.

Englemann's Purple-spined Hedgehog Cactus

Scientific name: ***Echinocereus engelmanii* var. *purpureus***
Historic range: **U.S. (Utah)**

Named after George Englemann, this extremely rare spiny cactus branches at the base to form as many as ten cylindrical stems growing up to eight inches tall and two inches in diameter, with four central and two radial spines. Blooming from February to May, its magenta or purple flowers are two to three inches wide. Overcollected by rare plant enthusiasts, the hedgehog cactus was placed on the endangered species list in 1979.

Florida Manatee (or sea cow)

Scientific Name: ***Trichechus manatus latirostris***
Historic Range: **Southeastern U.S., Mexico**

Christopher Columbus is believed to have made the first recorded sighting of manatees, and he associated them with mermaids. At one time, manatees were hunted by coastal Indians in much the same way that Plains Indians hunted the buffalo. The meat was used for food, the hides for canoes, and the bones for beads. Today the manatee— which feeds only on aquatic vegetation—is harassed by swimmers, divers, boaters, and people who shoot them for sport. The two greatest threats to Florida manatees are speedboat propellers and habitat loss. About 1,200 manatees still roam Florida's waters.

Florida Panther

Scientific name: ***Felis concolor coryi***
Historic range: **Louisiana, South Carolina, Florida, Georgia, Mississippi**

The Florida panther is a large, long-tailed cat. Because it is scarce and secretive, little is known about its behavior. We do know, however, that the panther requires vast areas to ensure both an adequate food supply and dense vegetation for cover. It hunts the white-tailed deer and supplements this diet with small animals, insects, and reptiles. The Florida panther is endangered primarily because of excessive hunting and the loss of its habitat. Fewer than 300 panthers are believed to exist today.

Gray Wolf

Scientific name: ***Canis lupus***
Historic range: **Holarctic (northern parts of both hemispheres)**

The wolf was once the most widely distributed land mammal on Earth. In the past, wolves followed nomadic Plains Indians for the carrion left from the Indians' hunting expeditions. The wolves thrived on the buffalo carcasses left by hide hunters and meat contractors. When the buffalos were gone, the wolves sometimes turned to domestic livestock. To protect their livestock, settlers encouraged the killing of wolves. The wolf is rare today because of intensive human settlement, lack of understanding of the animals, and overly ambitious programs to reduce the population of the wolf. On the North American continent, wolves now are common only in Canada and Alaska. Approximately 1,500 remain in northern Minnesota and in the mountains of Mexico.

Grizzly Bear

Scientific name: ***Ursus arctos horribilis***
Historic range: **Holarctic**

In the U.S., grizzly bears are found mainly in Montana and in Yellowstone National Park, Wyoming, although large populations of grizzlies occur in both Canada and Alaska. Grizzlies no longer exist in many areas where they once flourished. Because they were considered a threat to livestock and humans, thousands were killed by farmers and ranchers. Their numbers are still declining because of loss of wilderness habitat, sport hunting and other killing. Today only about 1,000 of the bears remain in the lower 48 states—that's *one percent* of the 100,000 animals that roamed the lower 48 at one time. Much of the bear's food is carrion, wild fruit, roots, and insects, as well as "leftovers" from garbage dumps.

Hawaiian Monk Seal

Scientific name: ***Monachus schauinslandi***
Historic range: **Hawaiian Islands**

The oldest living seal in the world (dating back some 15 million years), the Hawaiian monk seal lives on remote specks of land stretching 1,000 miles north to the main Hawaiian Islands. Monk seals cannot tolerate humans within their habitat. In fact, the major disturbance to the seal occurs when people disrupt pupping and nursing of the young. Some monk seals are eaten by sharks; others are killed by eating fish containing toxic pollutants. Today only about 550 monk seals remain. To protect the animals, certain islands will soon be designated as critical monk seal habitats.

Leatherback Sea Turtle

Scientific name: ***Dermochelys coriacea***
Historic range: **Tropical, temperate, subpolar seas and oceans**

Considered the rarest of all marine turtles, the leatherback sea turtle is the largest living reptile. It also has the greatest global distribution of any reptile. Found nesting on tropical beaches in Malaysia, Surinam, French Guiana, Mexico, Costa Rica, South Africa, the Dominican Republic, the Virgin Islands, and Florida in the United States, leatherbacks number an estimated 40,000 individuals—a small population considering the global range of the species. They feed principally on jellyfish. Leatherbacks are most imperiled due to the loss of eggs and young hatchlings. Since all sea turtles require relatively undisturbed beaches for nesting, increasing development and human activity on beaches threaten the nesting sites.

Piping Plover

Scientific name: ***Charadrius melodus***
Historic range: **North America**

One of the smallest members of the shorebird family, the piping plover lives along beaches, river sandbars, or lake shorelines. Commercial, agricultural, and recreational development of wetlands and shorelines has severely disturbed the nesting and feeding habitats of piping plovers. Approximately 2,000 plovers remain, and the bird's highest breeding concentrations may occur at only one site in North Dakota. A wetland bird sanctuary has been designated for the conservation and future study of the piping plover.

Small Whorled Pogonia

Scientific name: ***Isotria medeoloides***
Historic range: **New England to North Carolina; Michigan, Missouri, and Illinois**

The small whorled pogonia is an imperiled member of the orchid family. Its yellowish-green blooms appear in early to mid-June. The plant maintains long resting periods, remaining dormant underground for ten to twenty years. Many botanists have never seen one of these rare plants. In most cases, exact locations of the plants are kept a secret: widespread distribution of such information could lead to damaging overcollection of the species.

Whooping Crane (or "Whoopers")

Scientific name: ***Grus americana***
Historic range: **U.S. (Rocky Mountains east to Carolinas); Canada and Mexico**

Although whooping cranes are unique to North America, by 1941 only fifteen whoopers were left. Its wetland habitats were gradually drained to create dry land for farming and new cities. In 1954 a pilot accidentally discovered the stork's nesting ground in the remote Wood Buffalo National Park of northern Canada. Thanks to this discovery, scientists began a program to breed the birds in captivity at the U.S. Fish and Wildlife Service's Patuxent Research Center in Laurel, Maryland. In 1975 the captive flock began laying eggs; whoopers have increased. An additional free-flying flock has been established along the Rio Grande in New Mexico. About 128 whoopers exist today. Whoopers feed mainly on crabs, crayfish, and frogs.

Wood Stork

Scientific name: ***Mycteria americana***
Historic range: **U.S. (South Carolina to Texas), Central and South America**

The wood stork, North America's only true stork, is found in swamps and marshes edging coastlines. The species is now endangered because of the loss or deterioration of its wetland habitats—areas that are essential for the birds to forage and nest. Storks need a large supply of fish in order to flourish. Southern Florida provides the last, best natural environment for the species as well as the largest active wood stork nesting colony of 6,000 pairs.

Information Organizations:

Defenders of Wildlife
1244 19th Street, N.W.
Washington, D.C. 20036

Environmental Defense Fund
257 Park Avenue South
New York, N.Y. 10010

Friends of the Earth
530 Seventh Street, S.E.
Washington, D.C. 20003

International Crane Foundation
Shady Lane Road
Baraboo, WI 53913-9778

National Wildlife Federation
1412 16th Street, N.W.
Washington, D.C. 20036-2266

The Nature Conservancy
1800 N. Kent Street
Arlington, VA 22209

Rare Animal Relief Effort
c/o National Audubon Society
950 Third Avenue
New York, N.Y. 10022

Sierra Club
730 Polk Street
San Francisco, CA 94109

The Wilderness Society
10th Floor
1400 I Street, N.W.
Washington, D.C. 20005

World Wildlife Fund–U.S.
1255 23rd Street, N.W.
Washington, D.C. 20037

AGA
American Gas Association
1515 Wilson Boulevard
Arlington, VA 22209

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